RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Borehole # 41-14-09

Log Event A

Borehole Information

Farm : SX	**Tank :** SX-114	**Site Number :** 299-W23-89
N-Coord : 35,151	**W-Coord :** 75,815	**TOC Elevation :** 661.52
Water Level, ft :	**Date Drilled :** 3/6/1962	

Casing Record

Type : Steel-welded	**Thickness :** 0.280	**ID, in. :** 6
Top Depth, ft. : 0	**Bottom Depth, ft. :** 75	

Equipment Information

Logging System : 2	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 03/1995	**Calibration Reference :** GJPO-HAN-1	

Logging Information

Log Run Number : 1	**Log Run Date :** 7/18/1995	**Logging Engineer:** Bob Spatz
Start Depth, ft.: 0.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 10.5	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 2	**Log Run Date :** 7/19/1995	**Logging Engineer:** Bob Spatz
Start Depth, ft.: 75.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 9.5	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

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Analysis Information

Analyst : P.D. Henwood

Data Processing Reference : Data Analysis Manual Ver. 1 Analysis Date : 12/6/1995

Analysis Notes :

This borehole was logged in two log runs. The pre- and post-survey field verification spectra showed consistent activities, indicating the logging system operated properly during data collection. Gain drift in the instrumentation was slight during data collection. Therefore, peak identification was maintained and no energy versus channel number recalibrations were necessary during processing of data. Depth overlaps of logging data occurred from 9.5 to 10.5 ft. Data repeatability was excellent and values were within the limits of the statistical uncertainty of the measurements.

A casing-correction factor was applied for a casing thickness of 1/4 (0.25) inches.

Cs-137 was the only man-made radionuclide identified in this borehole. This contaminant was measured from the ground surface to about 17 ft, from 62 to 65.5 ft, and from 71 to 75 ft.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Report for tank SX-114.

Log Plot Notes:

Three log plots are provided. The Cs-137 concentrations are provided in a separate log plot to document the relative concentrations and shape of the distribution. A plot of naturally occurring radionuclides (K-40, U-238, and Th-232) is also provided, which can be used for lithology interpretation. A combination plot includes logs of Cs-137, natural gamma, total gamma derived from the spectral data, and the latest available data from the WHC Tank Farms gross gamma logging. With the exception of scale changes, no attempt has been made to adjust for depth discrepancies or other potential problems in the WHC gross gamma data. The energy peaks from which the radionuclide concentrations were derived are included in the headings for the Cs-137 and natural gamma plots.

The statistical uncertainty in a measurement is represented by uncertainty bars on the log plots where appropriate. This uncertainty is reported at the 95-percent confidence interval. The minimum detectable activity (MDA) is represented as an open circle on the plots. The MDA of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible. If the reported concentration is slightly above the MDA, the 95-percent confidence interval may extend below the MDA value.